

SEQUENCE LISTING

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Cerdan, Pablo D.

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<150> US 60/478,684

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Met Ser Gly Leu Gly Gln	Gly Asn Val Ser Ser Gly Thr Gly Gly Met				
	500	505	510		

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<213> Artificial Sequence

<220>
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<400> 4
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<210> 5
<211> 29
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<212> DNA
 <213> Artificial Sequence

 <220>
 <223> PCR Primer

 <400> 5
 cggttacttgg ttgagcttgg cctgaagga 29

 <210> 6
 <211> 27
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> PCR Primer

 <400> 6
 tcccgacat gaagccattt atatgta 27

 <210> 7
 <211> 27
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 <220>
 <223> FT PCR Primer

 <400> 7
 gctacaactg gaacaacctt tggcaat 27

 <210> 8
 <211> 27
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 <220>
 <223> CO PCR Primer

 <400> 8
 tataggcatc atcacggttc gttactc 27

 <210> 9
 <211> 28
 <212> DNA
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 <220>
 <223> PCR Primer

 <400> 9
 aaactctttc agctccatga ccactact 28

 <210> 10
 <211> 29
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 <213> Artificial Sequence

<220>
 <223> PCR Primer for UBQ10

 <400> 10
 ccatggatga aatgtatgcg ttatggta 29

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 <211> 28
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 <220>
 <223> PCR Primer

 <400> 11
 ggtgtcagaa ctctccacct caagagta 28

 <210> 12
 <211> 29
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 <213> Artificial Sequence

 <220>
 <223> PCR Primer

 <400> 12
 tcaattctct ctaccgtgat caagatgca 29

 <210> 13
 <211> 724
 <212> PRT
 <213> Sacharum officinarum

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 <222> 5017
 <223> Xaa = Any Amino Acid

 <221> VARIANT
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 <223> Xaa = Any Amino Acid

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 Ala Leu Gly Pro Tyr Trp Ser Thr Ile Val Ala Glu Tyr Val Glu Lys
 20 25 30
 Ile Val Arg Ser Phe Cys Ala Ser Glu Leu Pro Gly Gln Lys Leu Ala
 35 40 45
 Gly Ala Pro Pro Glu Leu Ala Leu Val Val Phe His Thr His Gly Pro
 50 55 60
 Tyr Ser Ala Phe Asp Val Gln Arg Ser Gly Trp Thr Lys Asp Thr Asp
 65 70 75 80
 Ala Phe Leu Ser Trp Leu Ser Gly Ile Ser Phe Ser Gly Gly Gly Phe
 85 90 95

Ser	Glu	Ala	Ser	Thr	Cys	Glu	Gly	Leu	Ala	Glu	Ala	Leu	Lys	Ile	Leu		
			100					105					110				
Gln	Gly	Ser	Pro	Asn	Thr	Thr	Gln	Ser	His	Gln	Asn	His	Glu	Ala	Gln		
		115					120					125					
Lys	His	Cys	Ile	Leu	Val	Ala	Ala	Ser	Asn	Pro	Tyr	Pro	Leu	Pro	Thr		
		130				135					140						
Pro	Val	Tyr	Cys	Leu	Pro	Thr	Gln	Ser	Thr	Asp	His	Lys	Glu	Asn	Ile		
145					150					155					160		
Glu	Thr	Ala	Lys	Glu	Pro	Ser	Ile	Ala	Asp	Ala	Glu	Thr	Val	Ala	Lys		
			165						170					175			
Ser	Phe	Ala	Gln	Cys	Ser	Val	Ser	Leu	Ser	Val	Ile	Ser	Pro	Lys	Gln		
			180					185					190				
Leu	Pro	Thr	Leu	Lys	Ala	Ile	Tyr	Asn	Ala	Gly	Lys	Arg	Asn	Pro	Arg		
		195					200					205					
Ala	Ala	Asp	Pro	Ser	Val	Asp	His	Ala	Lys	Asn	Pro	His	Phe	Leu	Val		
		210				215					220						
Leu	Leu	Ser	Glu	Asn	Phe	Met	Glu	Ala	Arg	Thr	Ala	Leu	Ser	Arg	Pro		
225					230					235					240		
Leu	His	Gly	Asn	Leu	Ala	Pro	Asn	Gln	Thr	Ile	Thr	Lys	Met	Asp	Thr		
			245						250					255			
Ala	Pro	Ala	Val	Thr	Met	Pro	Gly	Pro	Thr	Ser	Asn	Ala	Asn	Pro	Ser		
			260				265						270				
Gly	Arg	Gln	Pro	Val	Val	Gly	Gly	Ile	Ser	Thr	Ala	Thr	Val	Lys	Val		
		275				280						285					
Glu	Pro	Ala	Thr	Met	Pro	Pro	Ile	Val	Ser	Ala	Pro	Ala	Phe	Ser	His		
		290				295					300						
Val	Thr	Pro	Ile	Ser	Asn	Val	Ala	Ser	Gln	Gly	Ile	Ser	Ala	Leu	Gln		
305					310					315					320		
Thr	Ser	Ser	Pro	Ser	Leu	Ile	Ser	Gln	Glu	Ala	Asn	Met	Ala	Asn	Asp		
			325						330					335			
Asn	Val	Gln	Glu	His	Lys	Pro	Ile	Ile	Asn	Pro	Val	Gln	Gln	Pro	Val		
			340					345					350				
Arg	Pro	Gly	Gly	His	Gly	Ser	Leu	Leu	Asn	Asn	Leu	Ser	Gln	Val	Arg		
		355					360					365					
Leu	Met	Asn	Ser	Thr	Ser	Leu	Gly	Gly	Gly	Ala	Thr	Ser	Met	Gly	Leu		
		370				375					380						
Pro	Asn	Ile	Gly	Ala	Thr	Pro	Ile	Gln	Val	His	Met	Ser	Asn	Met	Ile		
385					390					395					400		
Ser	Ser	Gly	Met	Thr	Ser	Thr	Pro	Ser	Val	Ile	Ser	Ser	Met	Ser	Gly		
			405						410					415			
Pro	Gly	His	Pro	Ile	Gly	Thr	Gln	Gln	Met	Ile	Gln	Ser	Thr	Ala	Leu		
			420				425						430				
Gly	Ser	Phe	Gly	Ser	Asn	Thr	Ser	Thr	Val	Ser	Gly	Asn	Ser	Asn	Val		
		435				440						445					
Ala	Val	Ser	Ser	Ser	Leu	Thr	Asn	Asn	Gln	Ser	Ser	Met	Gly	Met	Gly		
		450				455					460						
Gln	Ser	Val	Gln	Pro	Val	Ala	Gln	Gly	Gly	Leu	Val	Ala	Gly	Ser	Gln		
465					470					475					480		
Leu	Gly	Gln	Gly	Gly	Ile	Gly	Ala	Asn	Gln	Asn	Val	Met	Ser	Ser	Leu		
			485						490					495			
Gly	Ser	Thr	Ala	Ile	Ser	Ser	Ala	Pro	Ala	Met	Met	Pro	Thr	Pro	Gly		
			500					505					510				
Met	Val	Pro	Gln	Thr	Gly	Val	Asn	Ser	Leu	Gly	Val	Asn	Asn	Asn	Pro		
		515					520					525					
Ala	Met	Asn	Met	Pro	Ile	Pro	Gln	His	Ala	Asn	Ala	Gln	Gln	Pro	Ala		
		530				535					540						
Pro	Lys	Tyr	Val	Lys	Ile	Trp	Glu	Gly	Thr	Leu	Ser	Gly	Gln	Arg	Gln		

545					550					555				560	
Gly	Gln	Pro	Val	Phe	Ile	Cys	Lys	Leu	Glu	Gly	Tyr	Arg	Ser	Gly	Thr
				565					570					575	
Ala	Ser	Glu	Thr	Leu	Ala	Ala	Asp	Trp	Pro	Glu	Thr	Met	Gln	Ile	Val
			580					585					590		
Arg	Leu	Ile	Ala	Gln	Glu	His	Met	Asn	Asn	Lys	Gln	Tyr	Val	Gly	Lys
		595					600					605			
Ala	Asp	Phe	Leu	Val	Phe	Arg	Thr	Leu	Asn	Gln	His	Gly	Phe	Leu	Gly
	610					615					620				
Gln	Leu	Gln	Glu	Lys	Lys	Leu	Cys	Ala	Val	Ile	Gln	Leu	Pro	Ser	Gln
625					630					635					640
Thr	Leu	Leu	Leu	Ser	Met	Ser	Asp	Lys	Ala	Arg	Arg	Leu	Ile	Gly	Met
				645					650					655	
Leu	Phe	Pro	Ala	Asp	Met	Val	Val	Ser	Xaa	Pro	Gln	Val	Pro	Thr	Gln
			660					665					670		
Gln	Thr	Gln	Leu	Gln	Gln	Gln	Leu	Gln	Gln	Gln	Gln	Leu	Pro	Lys	Gln
		675					680					685			
Gln	Gln	Leu	Gln	Gln	Glu	Leu	Gln	Gln	Gln	Gln	His	Met	His	Met	Gln
	690					695					700				
His	Gln	Ala	Ser	Asn	Ser	Glu	Ala	Glu	Met	His	Phe	Ser	Lys	Ala	Glu
705					710					715					720
Ala	Gln	Met	Pro												

<210> 14
 <211> 582
 <212> PRT
 <213> Sorghum bicolor

<400> 14															
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Arg	Ser	Phe	Cys	Ala	Ser	Glu	Leu	Pro	Gly	Gln	Lys	Leu	Ala	Gly	Pro
			20					25					30		
Pro	Pro	Glu	Leu	Ala	Leu	Val	Val	Phe	His	Thr	His	Gly	Pro	Tyr	Ser
		35					40					45			
Ala	Phe	Asp	Val	Gln	Arg	Ser	Gly	Trp	Thr	Lys	Asp	Thr	Asp	Ala	Phe
	50					55					60				
Leu	Ser	Trp	Leu	Ser	Gly	Ile	Ser	Phe	Ser	Gly	Gly	Gly	Phe	Ser	Glu
65					70					75					80
Ala	Ser	Thr	Cys	Glu	Gly	Leu	Ala	Glu	Ala	Leu	Lys	Ile	Leu	Gln	Gly
			85					90					95		
Ser	Pro	Asn	Ala	Thr	Gln	Ser	His	Gln	Asn	His	Glu	Ala	Gln	Lys	His
			100					105					110		
Cys	Ile	Leu	Val	Ala	Ala	Ser	Asn	Pro	Tyr	Pro	Leu	Pro	Thr	Pro	Val
	115						120					125			
Tyr	Cys	Leu	Pro	Thr	Gln	Ser	Thr	Asp	His	Lys	Glu	Asn	Ile	Glu	Thr
	130					135					140				
Ser	Lys	Glu	Pro	Ser	Ile	Ala	Asp	Ala	Glu	Thr	Val	Ala	Lys	Ser	Phe
145					150					155					160
Ala	Gln	Cys	Ser	Val	Ser	Leu	Ser	Val	Ile	Ser	Pro	Lys	Gln	Leu	Pro
			165						170					175	
Thr	Leu	Lys	Ala	Ile	Tyr	His	Glu	Ala	Val	Val	Ala	Val	Glu	Ala	Phe
			180				185						190		
Arg	Ala	Tyr	Lys	Glu	Lys	Val	Ala	Asn	Leu	Thr	Gly	Val	Thr	Arg	Lys
	195						200					205			

Phe	Met	Gly	Asn	Leu	Val	Lys	Ala	Phe	Lys	Thr	Asn	Leu	Pro	Glu	Val	210	215	220
Val	Val	Thr	Pro	Ala	Ala	Phe	Asp	Phe	Asp	His	Ile	Val	Asn	Gly	Pro	225	230	235
Thr	Met	Gly	Ser	Gln	Thr	Ala	Gly	Val	Gly	Gly	Ile	Ile	Ser	Thr	Ala	245	250	255
Thr	Val	Thr	Leu	Glu	Gln	Pro	Ala	Met	Glu	Pro	Met	Val	Ser	Gly	Ser	260	265	270
Ala	Gly	Phe	Trp	His	Ser	Ala	Leu	Gln	Gln	Pro	Ser	Ser	Ser	Ser	Leu	275	280	285
Ile	Ser	Gln	Glu	Ala	Asn	Ile	Ala	Asn	Asp	Ser	Val	Gln	Glu	His	Arg	290	295	300
Pro	Ile	Arg	Ser	Pro	Val	Gln	His	Pro	Val	Arg	Pro	Gly	Arg	His	Gly	305	310	315
Gly	Leu	Leu	Ser	Asn	Pro	Ser	Gln	Phe	Gln	Pro	Ile	His	Ser	Thr	Phe	325	330	335
Phe	Gly	Glu	Ala	Thr	Thr	Ser	Met	Gly	Pro	Pro	Asn	Ile	Gly	Ala	Ile	340	345	350
Thr	Pro	Leu	Gln	Phe	Asn	Met	Ser	Asn	Met	Ile	Ser	Ser	Gly	Ala	Thr	355	360	365
Ser	Thr	Pro	Leu	Val	Thr	Phe	Ser	Met	Ser	Ala	Pro	Gly	Gln	Pro	Ile	370	375	380
Gly	Asn	Gln	Asp	Met	Val	Gln	Ser	Thr	Ala	Leu	Gly	Ser	Phe	Gly	Ser	385	390	395
Asn	Thr	Ser	Thr	Ala	Trp	Asp	Asn	Ser	Asp	Ile	Ala	Glu	Ser	Ser	Ser	405	410	415
Gln	Pro	Asn	Ser	Met	Ala	Met	Asn	Arg	Gln	Ala	Gly	Ile	Asn	Pro	Leu	420	425	430
Ser	Ser	Ala	Met	Asn	Ala	Pro	Ile	Gly	Met	His	His	Asn	Ala	Gln	Gln	435	440	445
Pro	Pro	Pro	Lys	Tyr	Val	Lys	Ile	Trp	Glu	Gly	Thr	Leu	Ser	Gly	Gln	450	455	460
Arg	Gln	Gly	Arg	Pro	Val	Phe	Ile	Ser	Arg	Leu	Glu	Gly	Trp	Ser	Gly	465	470	475
Ile	Val	Ser	Lys	Thr	Val	Ala	Ala	Asp	Trp	Pro	Glu	Thr	Met	Gln	Ile	485	490	495
Val	Arg	Leu	Ile	Ala	Gln	Glu	His	Met	Asn	Asn	Lys	Gln	Tyr	Val	Trp	500	505	510
Lys	Gly	Arg	Leu	Ser	Asn	Ile	Ser	Asp	Phe	Lys	Ser	Ala	Trp	Phe	Leu	515	520	525
Gly	Gln	Leu	Gln	Glu	Arg	Lys	Leu	Cys	Ala	Val	Ile	Gln	Leu	Pro	Ser	530	535	540
Gln	Thr	Leu	Pro	Leu	Ser	Met	Ser	Asp	Lys	Ala	Gly	Arg	Met	Ile	Gly	545	550	555
Met	Leu	Phe	Pro	Glu	Asn	Met	Val	Ile	Phe	Lys	Pro	Glu	Val	Val	Thr	565	570	575
Gln	Pro	Ser	Leu	Val	Arg											580		

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 <211> 741
 <212> PRT
 <213> Medicago truncatula

<220>
 <221> VARIANT

<222> 1381

<223> Xaa = Any Amino Acid

<221> VARIANT

<222> 177, 188, 451, 454, 458

<223> Xaa = Any Amino Acid

<400> 15

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			20					25					30		
Arg	Cys	Leu	Gly	Gly	Asn	Glu	Ser	Thr	Gly	Gln	Lys	Pro	Ser	Gly	Ser
		35					40					45			
Asn	Val	Glu	Phe	Ser	Leu	Val	Thr	Tyr	Asn	Thr	His	Gly	Cys	Tyr	Ser
	50					55					60				
Gly	Ile	Leu	Val	Gln	Arg	Thr	Gly	Trp	Thr	Arg	Asp	Pro	Asp	Val	Phe
65					70					75					80
Leu	Gln	Trp	Leu	Glu	Ser	Ile	Pro	Phe	Ser	Gly	Gly	Gly	Phe	Asn	Asp
				85					90					95	
Ala	Ala	Ile	Ala	Glu	Gly	Leu	Ala	Glu	Ala	Leu	Met	Met	Phe	Pro	Pro
			100					105					110		
Ser	Gln	Ser	Gly	Gly	Leu	Asn	Gln	Asn	Val	Asp	Thr	Asn	Met	His	
		115				120					125				
Cys	Ile	Leu	Val	Ala	Ala	Ser	Asn	Pro	Tyr	Pro	Leu	Gln	Thr	Pro	Val
	130					135					140				
Tyr	Val	Pro	Gln	Leu	Gln	Ser	Leu	Glu	Lys	Thr	Glu	Ser	Ile	Asp	Ser
145					150					155					160
Asn	Gln	Val	Asn	Gln	Leu	Tyr	Asp	Ala	Glu	Ala	Val	Ala	Lys	Ala	Phe
				165					170					175	
Xaa	Gln	Phe	Asn	Ile	Ser	Leu	Ser	Val	Val	Cys	Xaa	Lys	Gln	Asn	Phe
			180					185					190		
Ser	His	Leu	Gln	Cys	Gly	Arg	Ala	Lys	Gly	Arg	Ser	Ala	Asp	Pro	Pro
		195					200					205			
Val	Asp	Pro	Lys	Thr	Thr	His	Phe	Leu	Ile	Leu	Ile	Ser	Glu	Gly	Phe
	210					215					220				
Arg	Glu	Ala	Arg	Ser	Ala	Leu	Ser	Arg	Pro	Gly	Thr	Asn	Met	Pro	Ser
225					230					235					240
Asn	Gln	Ser	Pro	Val	Lys	Val	Asp	Ala	Val	Ser	Ala	Thr	Pro	Val	Thr
				245					250					255	
Gly	Ala	Pro	Pro	Ser	Ser	Leu	Pro	Ser	Val	Asn	Gly	Ser	Ile	Pro	Asn
			260					265					270		
Arg	Gln	Pro	Ile	Pro	Ala	Gly	Asn	Val	Thr	Pro	Ala	Thr	Val	Lys	Val
		275					280					285			
Glu	Gln	Val	Pro	Val	Thr	Ser	Gly	Pro	Ala	Phe	Ser	His	Asn	Pro	Ser
	290					295					300				
Val	Pro	Arg	Ala	Thr	Gly	Thr	Gly	Leu	Gly	Val	Pro	Ser	Leu	Gln	Thr
305					310					315					320
Ser	Ser	Pro	Ser	Ser	Val	Ser	Gln	Asp	Ile	Met	Thr	Ser	Asn	Glu	Asn
				325					330					335	
Ala	Met	Asp	Thr	Lys	Pro	Ile	Val	Ser	Met	Leu	Gln	Pro	Ile	Arg	Pro
			340					345					350		
Val	Asn	Pro	Ala	Gln	Ala	Asn	Val	Asn	Ile	Leu	Asn	Asn	Leu	Ser	Gln
		355					360					365			
Ala	Arg	Gln	Val	Met	Ala	Leu	Ser	Gly	Gly	Thr	Ser	Met	Gly	Leu	Gln
	370					375					380				

Ser Met Gly Gln Thr Pro Val Ala Met His Met Ser Asn Met Ile Ser
 385 390 395 400
 Ser Gly Thr Thr Ser Ser Gly Pro Thr Gly Gln Asn Val Phe Ser Ser
 405 410 415
 Gly Pro Ser Val Ile Thr Ser Ser Gly Ser Leu Thr Ala Ser Ala Gln
 420 425 430
 Val Gly Gln Asn Ser Gly Leu Ser Ser Leu Thr Ser Ala Thr Ser Asn
 435 440 445
 Ser Ser Xaa Cys Leu Xaa Glu Phe Leu Xaa Phe Val Arg Gly Gly Lys
 450 455 460
 Val Arg Ser Lys Phe Val Val Leu Arg Gly Pro Ala Lys Met Met Gln
 465 470 475 480
 Asn Gly Val Asn Met Asp Glu Ile Gly Gly Gln Ser His Glu Thr Gln
 485 490 495
 Asn Gly Trp His Arg Ser Ser Pro Ile Trp Glu Gly Ser Leu Tyr Gly
 500 505 510
 Arg Lys Gln Gly Glu Pro Ile Phe Ile Thr Lys Leu Glu Gly Tyr Arg
 515 520 525
 Arg Ser Ser Ala Ser Glu Thr Leu Ala Ala Asn Trp Pro Pro Glu Met
 530 535 540
 His Ile Val Arg Ile Ile Ser Gln Asp His Met Asn Asn Lys Lys Tyr
 545 550 555 560
 Val Gly Glu Ala Asp Phe Leu Val Phe Arg Ala Arg Asn Thr His Gly
 565 570 575
 Phe Leu Gly Leu Leu Gln Glu Lys Lys Leu Cys Ala Val Ile Gln Leu
 580 585 590
 Gln Ser Gln Thr Leu Leu Leu Ser Val Ser Asp Lys Ala Cys Arg Leu
 595 600 605
 Met Gly Val Leu Phe Pro Gly Asp Lys Leu Val Ser Lys Ser Gln Leu
 610 615 620
 Ser Gly Gln Gln Gln Gln Gln Met Gln Gln Gln Met Gln Gln
 625 630 635 640
 His Gln Gln Met Gln Ser Gln Gln Gln His Leu Pro Gln Leu Gln Gln
 645 650 655
 Gln Met Gln Gln Gln Gln Gln Gln Gln Gln Leu Pro Gln Leu Gln Gln
 660 665 670
 Asn Gln Gln Leu Ser Gln Ile Gln Gln Gln Ile Pro Gln Leu Gln Gln
 675 680 685
 Gln Gln Gln Gln Leu Pro Gln Leu Gln Gln Gln Gln Leu Ser Gln Leu
 690 695 700
 Gln Gln Gln Gln Gln Gln Leu Pro Gln Leu Gln Gln Leu Gln His Gln
 705 710 715 720
 Gln Leu Pro Gln Gln Gln Gln Met Gly Trp Cys Trp Asn Gly Ser Asn
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 Leu Cys Ser Arg Ser
 740

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 <211> 15075
 <212> DNA
 <213> O. Sartiva

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 tgtgcttaaa atactttgaa taataaagta agtcacacaa aaaataaata ataattccaa 180

atTTTTTTaa	taagacgagt	ggtcaaacag	tgcaaatata	aactcaaaat	cccttatatt	240
atgggacgga	gggagtacct	cctaaaaata	cccttagttt	agccgaaaag	ctacactcaa	300
aactaacctg	atgtatacta	agaaagtaat	aaatgctcac	aattcttccc	aactatagag	360
taccattatt	attacattta	ctaaacacca	taaaagaaca	atacaactct	tttttacacc	420
aaaatttccc	catattcccc	tatggcccca	cctgtcatcc	acacaaaagc	ccacctttct	480
tcttatgggc	cttggggccc	atataaatta	gacccagta	ccccaccct	tgcgcgtcat	540
ctctctctaa	cctcacgaaa	cctaacaaga	agaagaagaa	gagaaattcc	ggcaaggaag	600
ggagggaggg	agaagtcgtt	ggtgcggggg	agattgattt	cgcgaggagg	aggggagctc	660
gagaggcggt	gattcgggga	gtcggcaggg	tggcgccggg	tgcggcgggc	gcgggggcgg	720
ccgtcggggg	gatggcgggc	gcggcgggcg	agaggcagct	ggtggtggcc	gtggagggga	780
cggcgggcgt	ggggcgcgtac	tggcccgta	ccgtggcgga	ctacgtcgag	aagatcgtgc	840
ggtaatgctg	cgcccggtgt	ttcctcccc	cgccgcgcca	ccctgctttc	ttgttactag	900
ttgactgtac	ggccgtcgcg	gattagtga	tcttgattt	cttgatgtgg	aagaattgga	960
ccctttgttg	attgtttagc	tgtttatatt	gagacgaagg	gagtacatgg	aacgcgaagc	1020
ggtagctagt	tagttcttga	tagtggaagt	tagcagctat	ccgtgtatgt	gtttgatata	1080
cacagttttt	tagttatatt	agtcggatat	atcgcttact	ccaagcatta	gtaggagatt	1140
tggagatttg	ttgtttgctc	tcacctttct	aattgcaaac	attaaatggt	actagttagc	1200
ttcaattctg	tttcacaatg	cttattcaaa	gagtaagaat	gcaagcgcat	catcgatgtg	1260
tggaaattcg	tgttttcttg	atgaactggt	tgttgtttgg	ctatatggtg	ttgtggcacg	1320
agatacatct	ttttttgctc	ctgattcgag	gagactttgt	atcactgcat	atgtgcagat	1380
ctatgacaga	atgtagcata	attcatcttc	tactttgggt	tttatgcctt	ttctagttcc	1440
tccttgctca	ttcagaagta	tttttcttca	gtctagcata	ttttagtgtt	ttttttttca	1500
tgaatgatga	atgattccca	tgaaaaccaa	tttcagtttt	tggctggtga	ttttactact	1560
cttctgtaca	accagtaatg	taatgatggg	atgctgtttt	ggttatggtt	atggcttttc	1620
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tggaatatct	atcacatgag	tcaaatttct	tgtgttcaag	cctttcaaat	aaaaaaaaata	1740
atgaaagtgg	gagctgtttg	tattgttggg	caataatcag	tttgctctga	attattaggg	1800
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aaaacttcgt	agtctgtttg	agaaatcaaa	ttaatgttag	acgaattctg	ttagtcaatt	1920
taaactgtta	tttctctgac	aagtgttctg	tttttagaac	tgaataata	tctctatttg	1980
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Arg Arg Ser Cys Glu Lys Leu Ala Gly Thr Pro Pro Glu Leu Ala Leu
 35          40          45
Val Val Phe His Thr His Gly Pro Tyr Ser Ala Phe Cys Val Gln Arg
 50          55          60
Ser Gly Trp Thr Lys Asp Met Asn Val Phe Leu Ser Trp Leu Ser Gly
 65          70          75          80
Ile Ser Phe Ser Gly Gly Gly Phe Ser Glu Ala Ala Ile Ser Glu Gly
 85          90          95
Leu Ala Glu Ala Leu Met Ile Leu Gln Gly Ser Ser Ser Asn Ser Gln
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115          120          125
Ser Asn Pro Tyr Pro Leu Pro Thr Pro Val Tyr Arg Pro Leu Val Gln
130          135          140
Ser Ser Asp His Lys Glu Asn Asn Asp Gly Ala Lys Glu Ser Cys Leu
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Ala Asp Ala Glu Thr Val Ala Lys Ser Leu Leu Arg Cys Ser Val Ser
165          170          175
Leu Ser Val Val Ser Pro Lys Gln Leu Pro Thr Leu Lys Ala Ile Tyr
180          185          190
Asn Ala Ala Lys Arg Asn Pro Arg Ala Ala Asp Pro Ser Val Asp His
195          200          205
Ala Lys Asn Pro His Phe Leu Val Leu Leu Ser Asp Asn Phe Leu Glu
210          215          220
Ala Arg Thr Ala Leu Ser Arg Pro Leu Pro Gly Asn Leu Val Thr Asn

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Ile	Ser	Gln	Glu	Thr	Asn	Leu	Ala	Asn	Asp	Ser	Val	Gln	Glu	His
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Gln	Ile	Val	Arg	Leu	Ile	Ala	Gln	Glu	His	Met	Asn	Asn	Lys	Gln
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Val	Gly	Lys	Ala	Asp	Phe	Leu	Val	Phe	Arg	Thr	Leu	Asn	Gln	His
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Phe	Leu	Gly	Gln	Leu	Gln	Glu	Lys	Lys	Leu	Cys	Ala	Val	Ile	Gln
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Pro	Thr	Gln	Gln	Pro	Pro	Met	Gln	Gln	Gln	Gln	Leu	Gln	Gln	Gln
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Asn	Gln	Leu	Gln	Gln	Gln	Asn	Gln	Leu	His	Gln	Gln	His	Gln	Leu
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Pro	Gln	Asn	Gln	Leu	Gln	Gln	Gln	His	Gln	Leu	Gln	Gln	Gln	Leu
		675					680						685	Gln

Gln	Gln	Gln	Leu	Gln	Gln	His	Met	Gln	Leu	Gln	Thr	Gln	Gly	Leu	Pro
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